PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

W. Aichele

Application No.: 10/077,578

Filed: February 14, 2002

For: CUTTING DEVICE AND CUTTING TOOL

BOX MISSING PARTS
Commissioner for Patents
Washington, D.C. 20231

CERTIFICATE OF MAILING

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By Carol Prentice
Carol Prentice

PRELIMINARY AMENDMENT

Dear Sir:

Prior to the calculation of the filing fee and examination of the above-referenced U.S. patent application, please amend the application as follows:

IN THE CLAIMS:

Cancel claims 1-35 and substitute the following new claims 36-70 therefor.

-- 36. Cutting device, comprising a machine frame, an anvil roller mounted for rotation on the machine frame and a cutting tool mounted for rotation on the machine frame, wherein the cutting tool has a cutting edge cooperating with anvil surfaces of the anvil roller, wherein the cutting tool is biased essentially parallel to its axis of rotation.

37. Cutting device as defined in claim 36, wherein the cutting tool is subject to a tensile load.

38. Cutting device as defined in claim 36, wherein the cutting tool is braced with such a force that a maximum oscillation amplitude of the cutting tool is below a predetermined value.

39. Cutting device as defined in claim 36, wherein the cutting tool has an outer sleeve, the cutting edge being seated on said outer sleeve, and an inner section, wherein outer sleeve and inner section are braced against one another with a tensional force acting essentially parallel to the axis of rotation of the cutting tool.

40. Cutting device as defined in claim 39, wherein inner section and outer sleeve are braced such that the inner section is subject to a tensile load in the direction of the outer sleeve.

41. Cutting device as defined in claim 39, wherein inner section and outer sleeve are braced such that pressure forces on the cutting tool are adapted to be overcompensated by means of the tensile stress on the inner section.

42. Cutting device as defined in claim 39, wherein outer sleeve and inner section are braced by means of form-locking connections.

43. Cutting device as defined in claim 42, wherein a connection direction of a form-locking connection is

oriented parallel to the axis of rotation of the cutting tool.

44. Cutting device as defined in claim 39, wherein a plurality of form-locking connections are arranged around the axis of rotation uniformly in relation to it.

45. Cutting device as defined in claim 39, wherein a form-locking element has a contact surface, a pressure being exertable on the outer sleeve by means of said contact surface.

46. Cutting device as defined in claim 45, wherein a screw element is seated on a contact element provided with the contact surface, a tensile force being exertable on the inner section by means of said screw element.

47. Cutting device as defined in claim 39, wherein the dimensions of a form-locking element and/or the number of form-locking elements are adapted to the diameter and the span of the cutting tool.

48. Cutting device as defined in claim 36, wherein the cutting tool is provided with supporting rings, the cutting tool being supportable in relation to the anvil roller and/or vice versa by means of said supporting rings.

49. Cutting device as defined in claim 48, wherein the diameter of a supporting ring surface is adjustable for each supporting ring due to radial expansion of the supporting ring in the range below an elastic expansion limit of its material by means of an expansion device.

50. Cutting device as defined in claim 48, wherein the diameter of a supporting ring is adjustable by means of a form-locking element, a tensile stress being exertable on an inner section of the cutting tool in relation to an outer sleeve with said form-locking element.

51. Cutting device as defined in claim 48, wherein the cutting tool is adapted to be biased independently of the expansion of the supporting rings.

52. Cutting device as defined in claim 36, wherein a biasing device for the cutting tool is arranged on the machine frame, a tensile stress being exertable on oppositely located ends or end areas of the cutting tool by means of said device.

53. Cutting tool rotatable about an axis of rotation and having a cutting edge adapted to be brought into cooperation with anvil surfaces of an anvil roller, wherein the cutting tool is biased essentially parallel to its axis of rotation.

54. Cutting tool as defined in claim 53, wherein the cutting tool is subject to a tensile load.

55. Cutting tool as defined in claim 53, wherein the cutting tool is braced with such a force that a maximum oscillation amplitude of the cutting tool is below a predetermined value.

56. Cutting tool as defined in claim 53, wherein the cutting tool has an outer sleeve, the cutting edge being seated on said outer sleeve, and has an inner section, wherein outer sleeve and inner section are braced against one another with a tensional force acting essentially parallel to the axis of rotation of the cutting tool.

57. Cutting tool as defined in claim 56, wherein inner section and outer sleeve are biased such that the inner section is subject to a tensile load in the direction of the outer sleeve.

58. Cutting tool as defined in claim 56, wherein inner section and outer sleeve are biased such that pressure forces on the cutting tool are adapted to be overcompensated by means of the tensile stress on the inner section.

59. Cutting tool as defined in claim 56, wherein outer sleeve and inner section are biased by means of form-locking connections.

60. Cutting tool as defined in claim 59, wherein a connection direction of a form-locking connection is oriented parallel to the axis of rotation of the cutting tool.

61. Cutting tool as defined in claim 56, wherein a plurality of form-locking connections are arranged around the axis of rotation uniformly in relation to it.

62. Cutting tool as defined in claim 56, wherein a form-locking element has a contact surface, a pressure force

being exertable on the outer sleeve by means of said surface.

63. Cutting tool as defined in claim 62, wherein a screw element is seated on a contact element provided with the contact surface, a tensile force being exertable on the inner section by means of said screw element.

64. Cutting tool as defined in claim 56, wherein the dimensions of a form-locking element and/or the number of form-locking elements are adapted to the diameter and the span of the cutting tool.

65. Cutting tool as defined in claim 53, wherein the cutting tool is provided with supporting rings, the cutting tool being supportable in relation to the anvil roller and/or vice versa by means of said rings.

66. Cutting tool as defined in claim 65, wherein the diameter of a supporting ring surface is adjustable for each supporting ring due to radial expansion of the supporting ring in the range below an elastic expansion limit of its material by means of an expansion device.

67. Cutting tool as defined in claim 65, wherein the diameter of a supporting ring is adjustable by means of a form-locking element, a tensile stress being exertable on an inner section of the cutting tool in relation to an outer sleeve by means of said form-locking element.

68. Cutting tool as defined in claim 65, wherein the cutting tool is adapted to be biased independently of the expansion of the supporting rings.

69. Embossing device, comprising a machine frame, an anvil roller mounted for rotation on the machine frame and an embossing tool mounted for rotation on the machine frame, wherein the embossing tool has an embossing structure cooperating with anvil surfaces of the anvil roller, wherein the embossing tool is biased essentially parallel to its axis of rotation.

70. Embossing tool rotatable about an axis of rotation and having an embossing structure, wherein the embossing tool is biased essentially parallel to its axis of rotation.--

REMARKS:

This Preliminary Amendment amends the claims to remove the multiple claim dependencies. The new claims are also believed to be in better form for U.S. examination.

Entry of this Amendment prior to calculation of the filing fee is respectfully requested.

Respectfully submitted,

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